

Title (en)  
DETECTION APPARATUS, DETECTION METHOD, DETECTION PROGRAM AND RECORDING MEDIUM THAT RECORDS DETECTION PROGRAM

Title (de)  
DETEKTIONSVORRICHTUNG, DETEKTIONSVERFAHREN, DETEKTIONSPROGRAMM UND AUFZEICHNUNGSMEDIUM ZUR AUFZEICHNUNG DES DETEKTIONSPROGRAMMS

Title (fr)  
APPAREIL DE DÉTECTION, PROCÉDÉ DE DÉTECTION, PROGRAMME DE DÉTECTION ET SUPPORT D'ENREGISTREMENT ENREGISTRANT UN PROGRAMME DE DÉTECTION

Publication  
**EP 3667448 A1 20200617 (EN)**

Application  
**EP 19214089 A 20191206**

Priority  
JP 2018232163 A 20181212

Abstract (en)  
In a detection apparatus that detects an anomaly of equipment, in a case where a plurality of types of anomalies occur, it is desired to detect which type of anomaly has occurred. Provided is a detection apparatus that includes a sensor data obtaining unit configured to obtain sensor data of a sensor installed in equipment, a model storage unit configured to store detection models that are individually trained for each anomaly using the sensor data in an anomaly period in which the anomaly has occurred, for a plurality of types of respective anomalies of the equipment, and a detection unit configured to detect presence or absence of the plurality of types of respective anomalies from the sensor data that has been newly obtained, by using the detection models corresponding to the plurality of types of respective anomalies.

IPC 8 full level  
**G05B 23/02** (2006.01)

CPC (source: CN EP US)  
**G01M 99/005** (2013.01 - US); **G05B 23/0243** (2013.01 - US); **G05B 23/0275** (2013.01 - EP US); **G06F 18/2433** (2023.01 - CN); **G06F 30/27** (2020.01 - US); **G06N 20/00** (2018.12 - US); **G05B 23/0243** (2013.01 - EP); **G06N 3/04** (2013.01 - US)

Citation (applicant)  
KAZUTOSHI KODAMA: "The Sushi Sensor and Machine Learning for Achieving Condition-based Maintenance (CBM)", YOKOGAWA TECHNICAL REPORT, vol. 61, no. 1, 2018, pages 25 - 28

Citation (search report)  
• [X1] US 2018348747 A1 20181206 - LAVID BEN LULU DAVID [IL], et al  
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• [X] US 2007028219 A1 20070201 - MILLER WILLIAM L [US], et al  
• [X] US 2015279129 A1 20151001 - ISHIKAWA MASAYOSHI [JP], et al  
• [A] EMBRECHTS M J ET AL: "Hybrid identification of unlabeled nuclear power plant transients with artificial neural networks", NEURAL NETWORKS PROCEEDINGS, 1998. IEEE WORLD CONGRESS ON COMPUTATIONAL INTELLIGENCE. THE 1998 IEEE INTERNATIONAL JOINT CONFERENCE ON ANCHORAGE, AK, USA 4-9 MAY 1998, NEW YORK, NY, USA, IEEE, US, vol. 2, 4 May 1998 (1998-05-04), pages 1438 - 1443, XP010286652, ISBN: 978-0-7803-4859-2, DOI: 10.1109/IJCNN.1998.685987

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 3667448 A1 20200617**; CN 111310778 A 20200619; JP 2020095425 A 20200618; JP 6950670 B2 20211013; US 11392737 B2 20220719; US 2020193076 A1 20200618

DOCDB simple family (application)  
**EP 19214089 A 20191206**; CN 201911256908 A 20191210; JP 2018232163 A 20181212; US 201916706791 A 20191208